

WHAT IS CLAIMED IS:

1 1. A method, comprising:
2 maintaining an initial configuration assigning multiple local interfaces to one
3 initial local address;
4 for each local interface, receiving a remote address of a remote interface on at
5 least one remote device to which the local interface connects; and
6 using the initial local address to identify the local interfaces assigned to the initial
7 local address in response to receiving a same remote address for each remote interface
8 connected to the local interfaces assigned the initial local address.

1 2. The method of claim 1, further comprising:
2 generating at least one identifier in response to receiving multiple remote
3 addresses from the remote interfaces connected to the local interfaces; and
4 assigning different identifiers to the local interfaces previously assigned the initial
5 local address in response to generating the at least one identifier.

1 3. The method of claim 2, wherein the initial local address comprises a port
2 address of a port to which the local interfaces are assigned as part of the initial
3 configuration.

1 4. The method of claim 3, wherein each generated identifier comprises an
2 additional port address, further comprising:
3 configuring an additional port in the device for each generated additional port
4 address; and
5 assigning local interfaces to the ports, including the additional port and port
6 having the initial local address.

1 5. The method of claim 4, wherein the local interfaces assigned to one port
2 connect to remote interfaces having a same remote address.

1 6. The method of claim 2, wherein the at least one received remote address is
2 received as part of an identification sequence, further comprising:

3 transmitting the initial local address to the remote interfaces connected to the local
4 interfaces.

1 7. The method of claim 6, wherein the identifiers assigned to the local
2 interfaces, including the at least one generated identifier, comprise local addresses,
3 further comprising:

4 initiating an additional identification sequence in response to generating the at
5 least one local address; and

6 transmitting the local addresses identifying the local interfaces to the connected
7 remote interfaces in response to the additional identification sequence.

1 8. The method of claim 1, wherein the at least one remote device and a local
2 device including the local interfaces implement the SAS architecture, wherein the local
3 and remote addresses comprise SAS addresses, and wherein the local and remote
4 interfaces comprise PHYs.

1 9. The method of claim 1, wherein the remote interfaces having different
2 remote addresses are on different remote devices.

1 10. The method of claim 2, wherein generating the at least one identifier
2 comprises generating a different identifier for each received different remote address,
3 wherein a combination of the identifiers and the initial local address are used to identify
4 the local interfaces assigned.

1 11. The method of claim 10, wherein the plurality of identifiers comprise
2 domains and wherein the initial local address comprises a port address of a port to which
3 the local interfaces are assigned as part of the initial configuration, wherein the local
4 interfaces remain assigned to the port having the initial local address.

1 12. The method of claim 10, wherein the remote interfaces having different
2 remote addresses are on different remote devices, wherein the combination of each of the
3 plurality of identifiers and the default local address identify the local interfaces within a
4 local device and wherein the initial local address identifies the local interfaces within the
5 remote devices.

1 13. The method of claim 10, wherein the plurality of identifiers comprise
2 domains, further comprising:

3 for each received remote address, generating a different domain in a local device
4 including the local interfaces connected to the remote interfaces having the remote
5 addresses.

1 14. The method of claim 13, wherein the generated domains include one
2 domain in the initial configuration.

1 15. A device in communication with a plurality of remote interfaces on at least
2 one remote device, comprising:

3 a plurality of local interfaces;
4 an initial configuration assigning multiple local interfaces to one initial local
5 address;
6 circuitry capable of causing operations, the operations comprising:
7 (i) for each local interface, receiving a remote address of one remote
8 interface to which the local interface connects; and
9 (ii) using the initial local address to identify the local interfaces assigned
10 to the initial local address in response to receiving a same remote address for each
11 remote interface connected to the local interfaces assigned the initial local
12 address.

1 16. The device of claim 15, wherein the operations further comprise:
2 generating at least one identifier in response to receiving multiple remote
3 addresses from the remote interfaces connected to the local interfaces; and

4 assigning different identifiers to the local interfaces previously assigned the initial
5 local address in response to generating the at least one identifier.

1 17. The device of claim 16, wherein the initial local address comprises a port
2 address of a port to which the local interfaces are assigned as part of the initial
3 configuration.

1 18. The device of claim 17, wherein each generated identifier comprises an
2 additional port address, and wherein the operations further comprise:

3 configuring an additional port in the device for each generated additional port
4 address; and
5 assigning local interfaces to the ports, including the additional port and port
6 having the initial local address.

1 19. The device of claim 18, wherein the local interfaces assigned to one port
2 connect to remote interfaces having a same remote address.

1 20. The device of claim 16, wherein the at least one received remote address is
2 received as part of an identification sequence, wherein the operations further comprise:
3 transmitting the initial local address to the remote interfaces connected to the local
4 interfaces.

1 21. The device of claim 16, wherein the identifiers assigned to the local
2 interfaces, including the at least one generated identifier, comprise local addresses,
3 wherein the operations further comprise:

4 initiating an additional identification sequence in response to generating the at
5 least one local address; and

6 transmitting the local addresses identifying the local interfaces to the connected
7 remote interfaces in response to the additional identification sequence.

1 22. The device of claim 15, wherein the at least one remote device and the
2 device implement the SAS architecture, wherein the local and remote addresses comprise
3 SAS addresses, and wherein the local and remote interfaces comprise PHYs.

1 23. The device of claim 15, wherein the remote interfaces having different
2 remote addresses are on different remote devices.

1 24. The device of claim 16, wherein generating the at least one identifier
2 comprises generating a different identifier for each received different remote address,
3 wherein a combination of the identifiers and the initial local address are used to identify
4 the local interfaces assigned.

1 25. The device of claim 24, wherein the plurality of identifiers comprise
2 domains and wherein the initial local address comprises a port address of a port to which
3 the local interfaces are assigned as part of the initial configuration, wherein the local
4 interfaces remain assigned to the port having the initial local address.

1 26. The device of claim 24, wherein the remote interfaces having different
2 remote addresses are on different remote devices, wherein the combination of each of the
3 plurality of identifiers and the default local address identify the local interfaces within the
4 local device and wherein the initial local address identifies the local interfaces within the
5 remote devices.

1 27. The device of claim 24, wherein the plurality of identifiers comprise
2 domains, wherein the code is executed to further perform:
3 for each received remote address, generating a different domain in the local
4 device including the local interfaces connected to the remote interfaces having the remote
5 addresses.

1 28. The device of claim 27, wherein the generated domains includes one
2 domain in the initial configuration.

1 29. A system in communication with at least one remote device having a
2 plurality of remote interfaces, comprising:
3 a circuit board;
4 an adaptor coupled to the circuit board, comprising:
5 (i) a plurality of local interfaces;
6 (ii) an initial configuration assigning multiple local interfaces to one initial
7 local address;
8 (iii) circuitry capable of causing operations to be performed, the
9 operations comprising:
10 (a) for each local interface, receiving a remote address of one
11 remote interface to which the local interface connects; and
12 (b) using the initial local address to identify the local interfaces
13 assigned to the initial local address in response to receiving a same remote
14 address for each remote interface connected to the local interfaces
15 assigned the initial local address.

1 30. The system of claim 29, wherein the operations further comprising:
2 generating at least one identifier in response to receiving multiple remote
3 addresses from the remote interfaces connected to the local interfaces; and
4 assigning different identifiers to the local interfaces previously assigned the initial
5 local address in response to generating the at least one identifier.

1 31. The server of claim 30, wherein the initial local address comprises a port
2 address of a port to which the local interfaces are assigned as part of the initial
3 configuration.

1 32. An article of manufacture for interfacing local interfaces in a local device
2 with connected remote interfaces in at least one remote device, wherein the article of
3 manufacture causes operations to be performed, the operations comprising:

4 maintaining an initial configuration assigning multiple local interfaces to one
5 initial local address;
6 for each local interface, receiving a remote address of one remote interface to
7 which the local interface connects; and
8 using the initial local address to identify the local interfaces assigned to the initial
9 local address in response to receiving a same remote address for each remote interface
10 connected to the local interfaces assigned the initial local address.

1 33. The article of manufacture of claim 32, wherein the operations further
2 comprise:
3 generating at least one identifier in response to receiving multiple remote
4 addresses from the remote interfaces connected to the local interfaces; and
5 assigning different identifiers to the local interfaces previously assigned the initial
6 local address in response to generating the at least one identifier.

1 34. The article of manufacture of claim 33, wherein the initial local address
2 comprises a port address of a port to which the local interfaces are assigned as part of the
3 initial configuration.

1 35. The article of manufacture of claim 34, wherein each generated identifier
2 comprises an additional port address, wherein the operations further comprise:
3 configuring an additional port in the device for each generated additional port
4 address; and
5 assigning local interfaces to the ports, including the additional port and port
6 having the initial local address.

1 36. The article of manufacture of claim 35, wherein the local interfaces
2 assigned to one port connect to remote interfaces having a same remote address.

1 37. The article of manufacture of claim 33, wherein the at least one received
2 remote address is received as part of an identification sequence, wherein the operations
3 further comprise:

4 transmitting the initial local address to the remote interfaces connected to the local
5 interfaces.

1 38. The article of manufacture of claim 37, wherein the identifiers assigned to
2 the local interfaces, including the at least one generated identifier, comprise local
3 addresses, wherein the operations further comprise:

4 initiating an additional identification sequence in response to generating the at
5 least one local address; and

6 transmitting the local addresses identifying the local interfaces to the connected
7 remote interfaces in response to the additional identification sequence.

1 39. The article of manufacture of claim 32, wherein the at least one remote
2 device and a local device including the local interfaces implement the SAS architecture,
3 wherein the local and remote addresses comprise SAS addresses, and wherein the local
4 and remote interfaces comprise PHYs.

1 40. The article of manufacture of claim 32, wherein the remote interfaces
2 having different remote addresses are on different remote devices.

1 41. The article of manufacture of claim 33, wherein generating the at least one
2 identifier comprises generating a different identifier for each received different remote
3 address, wherein a combination of the identifiers and the initial local address are used to
4 identify the local interfaces assigned.

1 42. The article of manufacture of claim 41, wherein the plurality of identifiers
2 comprise domains and wherein the initial local address comprises a port address of a port
3 to which the local interfaces are assigned as part of the initial configuration, wherein the
4 local interfaces remain assigned to the port having the initial local address.

1 43. The article of manufacture of claim 41, wherein the remote interfaces
2 having different remote addresses are on different remote devices, wherein the
3 combination of each of the plurality of identifiers and the default local address identify
4 the local interfaces within a local device and wherein the initial local address identifies
5 the local interfaces within the remote devices.

1 44. The article of manufacture of claim 41, wherein the plurality of identifiers
2 comprise domains, wherein the operations further comprise:
3 for each received remote address, generating a different domain in a local device
4 including the local interfaces connected to the remote interfaces having the remote
5 addresses.

1 45. The article of manufacture of claim 44, wherein the generated domains
2 include one domain in the initial configuration.

1 46. The article of manufacture of claim 32, wherein the article of manufacture
2 stores instructions that when executed result in performance of the operations.